FILTERING SYSTEM FOR A POOL OR SPA

Background of the Invention

[0001]   This application is a continuation-in-part of U.S. Patent Application Serial No. 09/990,616, filed on November 21, 2001, now U.S. Patent No. _6,685,843_, and continuation-in-part of U.S. Patent Application Serial No. 10/448,876 filed on May 30, 2003, now ~~U.S. Patent No.~~ _Pending_ .

[0002]   1. Field of the Invention:

[0003]   The present invention relates to filter for liquids. More particularly, the present invention is directed to an internal filter for use in the water circulation systems of conventional pools or spas.

[0004]   2. General Background and State of the Art:

[0005]   Filters of various configurations are known in the art for use in swimming pools, spas, and the like in order to remove solid particles and debris from the circulated water. Such filters are typically mounted in-line within the pool or spa circulation system and are configured with a liquid-permeable filter media such that when the circulation system is in operation, the water can be pulled through the filter and pumped back into the pool or spa, leaving the captured debris on the filter for subsequent removal.

[0006]   The conventional cartridge filter as is known and used in the art is generally comprised of a cylindrical filter element having one or more layers or sheets of a porous material configured with a pore size to allow the passage of water while trapping and removing the solid particles from the water that are unable to pass through the pores. As the filter traps more and more solid particles, the pores in the filter media become clogged, inhibiting the flow of water through the pool or spa's circulation system and thereby decreasing performance and possibly even damaging the circulation pump. In an attempt to address these concerns, the cartridge filters known in the art typically employ relatively large sheets of the porous filter material that are pleated so as to provide an increased filter surface area, thus increasing the life and performance of the filter, while not increasing the filter's overall size. The filter material is maintained in its